DOCKET NO.: COPT-0002 (formerly CARP-0087)

**Application No.:** 09/746,219

Office Action Dated: January 9, 2008

This listing of claims will replace all prior versions, and listings, of claims in the application.

**PATENT** 

**Listing of Claims:** 

1 - 12. (Cancelled)

13. (Previously presented) A catalyst support for selective gas phase reactions in a tubular

fixed bed reactor comprising a metallic monolith having channels the walls of which are

adapted to receive a catalytically active phase or an intermediate layer acting as a carrier for a

catalytically active phase, wherein the surface area per unit volume of the monolith is at least

 $6 \text{ cm}^2/\text{cm}^3$ .

14. (Original) A catalyst support according to claim 13 wherein the surface area per unit

volume of the monolith is at least 10 cm<sup>2</sup>/cm<sup>3</sup>.

15-25. (Cancelled)

26. (Previously presented) A method for selectively reacting reagents in a gas phase

exothermic reaction comprising reacting said reagents in a tubular fixed bed reactor

comprising a metallic monolith having channels the walls of which are adapted to receive a

catalytically active phase or an intermediate layer acting as a carrier for a catalytically active

phase, wherein said catalytically active phase catalyses a selective exothermic gas phase

reaction.

27. (Previously presented) The method of claim 26, wherein the gas phase exothermic

reaction is the selective chlorination and/or oxychlorination of alkenes or alkanes or the

selective oxidation of alkenes.

28. (Previously presented) The method of claim 27, wherein the reaction is selected from

the group consisting of the conversion of ethylene with chlorine to 1,2-dichloroethane, the

conversion of ethylene with hydrogen chloride with air or oxygen to give 1,2-dichloroethane,

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the conversion of ethane with hydrogen chloride with air or oxygen to give a saturated or

unsaturated chlorinated hydrocarbon, and the reaction of methane with chlorine.

29. (Previously presented) The method of claim 27 wherein the catalyst for the

oxychlorination reaction of ethylene contains copper in an amount of 1 to 12 wt % of the

intermediate layer.

30. (Previously presented) The method of claim 29, wherein the catalyst also comprises at

least one alkali metal, alkaline earth metal, group IIB metal or lanthanide in a total amount up

to 6 wt % of the intermediate layer.

31. (Previously presented) The method of claim 27 wherein the catalyst for the

oxychlorination reaction of ethane contains in the intermediate layer copper and an alkali

metal in the atomic ratio 2:8.

32. (Previously presented) The method of claim 31, wherein the catalyst also comprises at

least one alkaline earth metal, group IIB metal or lanthanide.

33. (Previously presented) The method of claim 27, wherein the catalyst for the selective

oxidation reaction of ethylene comprises at least silver, and at least one alkali and/or alkaline

earth metal.

34. (Previously presented) A method for selectively reacting reagents in a gas phase

endothermic reaction comprising reacting said reagents in a tubular fixed bed reactor

comprising a metallic monolith having channels the walls of which are adapted to receive a

catalytically active phase or an intermediate layer acting as a carrier for a catalytically active

phase, wherein said catalytically active phase catalyses a selective endothermic gas phase

reaction.

35. (Previously presented) The method of claim 28 wherein the conversion of ethane with

hydrogen chloride with air or oxygen produces 1,2-dichloroethane.

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36. (Previously presented) The method of claim 28 wherein the conversion of ethane with

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hydrogen chloride with air or oxygen produces vinyl chloride.

37. (New) The catalyst support of claim 13 further comprising a cell density of at least 3

cells/cm<sup>2</sup>.

38. (New) The catalyst support of claim 37 further comprising a cell density between 8

cells/cm<sup>2</sup> and 100 cells/cm<sup>2</sup>.

39. (New) The catalyst support of claim 13 further comprising a length of equal to or

greater than 5 cm.

40. (New) The catalyst support of claim 39 further comprising a length of between 30 cm

and 1 m.

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